

Q51098
PATENT APPLICATION

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of

Shingo NISHIKAWA, et al.

Appln. No.: 09/116,589

Filed: July 16, 1998

For: REFLECTION TYPE DIFFUSE HOLOGRAM, HOLOGRAM FOR REFLECTION HOLOGRAM
COLOR FILTERS, ETC., AND REFLECTION TYPE DISPLAY DEVICE USING SUCH
HOLOGRAMS



Group Art Unit: 2872

Examiner: A. Chang

#9
CFR

REQUEST FOR CORRECTED OFFICIAL FILING RECEIPT

ATTN: APPLICATION BRANCH

Assistant Commissioner for Patents
Washington, D.C. 20231

Sir:

We enclose a copy of the Official Filing Receipt for the above-identified application and request the following corrections:

- Under "ATTORNEY DOCKET NO." please insert --Q51098--
- Under "FOREIGN APPLICATIONS" please insert --JAPAN 9-190970 07/16/97--

Verification for the requested corrections is indicated on the original Declaration and Power of Attorney filed January 13, 1999.

These errors were caused by the PTO and therefore no fee is necessary.

Respectfully submitted,

Peter A. McKenna
Registration No. 38,551

SUGHRUE, MION, ZINN,
MACPEAK & SEAS, PLLC
2100 Pennsylvania Avenue, N.W.
Washington, D.C. 20037-3213
Telephone: (202) 293-7060
Facsimile: (202) 293-7860

Date: September 3, 1999

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ABSTRACT

A method of fabricating a hologram having a pattern made up of pixels in which a photosensitive material for forming a hologram is stacked on either a reflection-type hologram or a transmission type hologram. According to one aspect of the invention, the photosensitive material is stacked on a reflection-type relief hologram and reconstructing illumination light of a given wavelength is struck on the reflection-type relief hologram through the photosensitive material, so that interference fringes produced by interference of the light diffracted from the reflection type relief hologram and the incident light are recorded in the photosensitive material. According to another aspect of the invention, the photosensitive material is stacked on a transmission-type hologram, and reconstructing illumination light of a given wavelength is struck on a side of the transmission type hologram that is not opposite to the volume hologram photosensitive material, so that interference fringes produced by interference of light diffracted from the transmission type hologram and reference light incident on the photosensitive material are recorded in the photosensitive material. According to a third aspect of the invention, the photosensitive material is stacked on a transmission type hologram, and reconstructing illumination light of a given wavelength is struck on a side of the transmission type hologram that is not opposite to the photosensitive material, so that interference fringes produced by interference of light diffracted from the transmission type hologram and zero-order transmitted light are recorded in the photosensitive material, and a reflecting layer is provided on a back side of the photosensitive material.

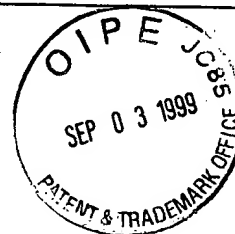
FILING RECEIPT
CORRECTED



UNITED STATES DEPARTMENT OF COMMERCE
Patent and Trademark Office
ASSISTANT SECRETARY AND COMMISSIONER
OF PATENTS AND TRADEMARKS
Washington, D.C. 20231

| APPLICATION NUMBER | FILING DATE | GRP ART UNIT | FIL FEE REC'D | ATTORNEY DOCKET NO. | DRWGS | TOT CL | IND CL |
|--------------------|-------------|--------------|---------------|---------------------|-------|--------|--------|
| 09/116,589 | 07/16/98 | 2872 | \$3,910.00-- | Q51098- | 32 | 84 | 19 |

SUGHRUE MION ZINN MACPEAK & SEAS
2100 PENNSYLVANIA AVENUE N W
WASHINGTON DC 20037-3202



Receipt is acknowledged of this nonprovisional Patent Application. It will be considered in its order and you will be notified as to the results of the examination. Be sure to provide the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION when inquiring about this application. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. If an error is noted on this Filing Receipt, please write to the Application Processing Division's Customer Correction Branch within 10 days of receipt. Please provide a copy of the Filing Receipt with the changes noted thereon.

Applicant(s)

SHINGO NISHIKAWA, TOKYO, JAPAN, KENJI UEDA, TOKYO, JAPAN, TOSHIKAZU SEGAWA, TOKYO, JAPAN, TSUYOSHI HOTTA, TOKYO, JAPAN, YUKO KUWABARA, TOKYO, JAPAN, MASACHIKI WATANABE, TOKYO, JAPAN

CONTINUING DATA AS CLAIMED BY APPLICANT-

THIS APPLN IS A CIP OF 08/839,666 04/15/97

FOREIGN APPLICATIONS-

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|-----------|---------------|------------|
| JAPAN ✓ | 092518/1996 ✓ | 04/15/96 ✓ |
| JAPAN ✓ | 123390/1996 ✓ | 05/17/96 ✓ |
| JAPAN ✓ | 192020/1996 ✓ | 07/22/96 ✓ |
| JAPAN ✓ | 197574/1996 ✓ | 07/26/96 ✓ |
| JAPAN ✓ | 237857/1996 ✓ | 09/09/96 ✓ |
| --JAPAN ✓ | 9-190970 | 07/16/97 ✓ |

TITLE

REFLECTION TYPE DIFFUSE HOLOGRAM, HOLOGRAM FOR REFLECTION HOLOGRAM COLOR FILTERS, ETC., AND REFLECTION TYPE DISPLAY DEVICE USING SUCH HOLOGRAMS

PRELIMINARY CLASS: 359

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SEP 23 1999
TC 2000 MAIL ROOM

DATA ENTRY BY: THOMAS, SHEILA

TEAM: 06 DATE: 02/09/99

(see reverse)

FILE COPY

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|-----------------------------|-------------------------|--------------|------------------------|-------------------------------|
| SERIAL NUMBER 09/116,589 | FILING DATE 07/16/98 | CLASS 359 | GROUP ART UNIT 2872 | ATTORNEY DOCKET NO. Q51098 |
|-----------------------------|-------------------------|--------------|------------------------|-------------------------------|

APPLICANT

SHINGO NISHIKAWA, TOKYO, JAPAN; KENJI UEDA, TOKYO, JAPAN; TOSHIKAZU SEGAWA, TOKYO, JAPAN; TSUYOSHI HOTTA, TOKYO, JAPAN; YUKO KUWABARA, TOKYO, JAPAN; MASACHIKA WATANABE, TOKYO, JAPAN.

****CONTINUING DOMESTIC DATA*******

VERIFIED THIS APPLN IS A CIP OF 08/839,666 04/15/97 ASN.

Ye / No

****371 (NAT'L STAGE) DATA*******

VERIFIED

None / me

****FOREIGN APPLICATIONS*******

| | | | |
|-----------------|-------|-------------|----------|
| VERIFIED | JAPAN | 092518/1996 | 04/15/96 |
| | JAPAN | 123390/1996 | 05/17/96 |
| <u>Yes / me</u> | JAPAN | 192020/1996 | 07/22/96 |
| | JAPAN | 197574/1996 | 07/26/96 |
| | JAPAN | 237857/1996 | 09/09/96 |
| | JAPAN | 9-190970 | 07/16/97 |

IF REQUIRED, FOREIGN FILING LICENSE GRANTED 09/25/99

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|---|---|-------------------------|----------------------|--------------------|--------------------------|
| Foreign Priority claimed 35 USC 119 (a-d) conditions met | <input type="checkbox"/> yes <input type="checkbox"/> no <input type="checkbox"/> yes <input type="checkbox"/> no <input type="checkbox"/> Met after Allowance | STATE OR COUNTRY JPX | SHEETS DRAWING 32 | TOTAL CLAIMS 84 | INDEPENDENT CLAIMS 19 |
| Verified and Acknowledged Examiner's Initials _____ Initials _____ | | | | | |

ADDRESS

SUGHRUE MION ZINN MACPEAK & SEAS
2100 PENNSYLVANIA AVENUE N W
WASHINGTON DC 20037-3202

TITLE

REFLECTION TYPE DIFFUSE HOLOGRAM, HOLOGRAM FOR REFLECTION HOLOGRAM COLOR FILTERS, ETC., AND REFLECTION TYPE DISPLAY DEVICE USING SUCH HOLOGRAMS

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| FILING FEE RECEIVED \$3,910 | FEES: Authority has been given in Paper No. _____ to charge/credit DEPOSIT ACCOUNT NO. _____ for the following: | <input type="checkbox"/> All Fees <input type="checkbox"/> 1.16 Fees (Filing) <input type="checkbox"/> 1.17 Fees (Processing Ext. of time) <input type="checkbox"/> 1.18 Fees (Issue) <input type="checkbox"/> Other _____ <input type="checkbox"/> Credit |
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PATENT OFFICE
JAPANESE GOVERNMENT



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This is to certify that the annexed is a true copy of the following application as filed in this Office.

出 願 年 月 日
Date of Application:

1996年 4月15日

願 番 号
Application Number:

平成 8年特許願第092518号

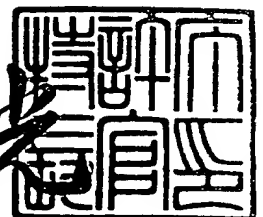
願 人
Applicant(s):

大日本印刷株式会社

1997年 5月 2日

特 許 庁 長 官
Commissioner,
Patent Office

荒井寿光



出証番号 出証特平09-3031402

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願 年 月 日
Date of Application:

1996年 5月17日

願 番 号
Application Number:

平成 8年特許願第123390号

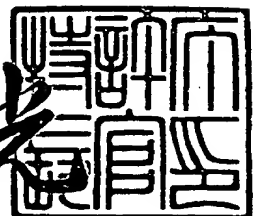
願 人
Applicant(s):

大日本印刷株式会社

1997年 5月 2日

特許庁長官
Commissioner,
Patent Office

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出証番号 出証特平09-3031403

日 本 国 特 許 庁

PATENT OFFICE
JAPANESE GOVERNMENT

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る事項と同一であることを証明する。

This is to certify that the annexed is a true copy of the following application as filed
in this Office.

願 年 月 日
Date of Application:

1996年 7月22日

願 番 号
Application Number:

平成 8年特許願第192020号

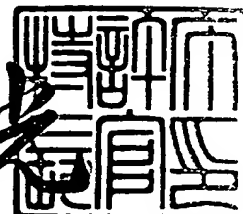
願 人
Applicant(s):

大日本印刷株式会社

1997年 5月 2日

特許庁長官
Commissioner,
Patent Office

荒井 寿光



出証番号 出証特平09-3031404

4/5

日 本 国 特 許 庁
PATENT OFFICE
JAPANESE GOVERNMENT

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る事項と同一であることを証明する。

This is to certify that the annexed is a true copy of the following application as filed
in this Office.

出 願 年 月 日
Date of Application: 1996年 7月26日

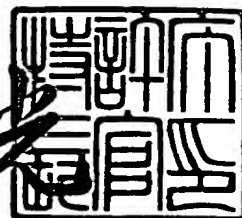
出 願 番 号
Application Number: 平成 8年特許願第197574号

出 願 人
Applicant(s): 大日本印刷株式会社

1997年 5月 2日

特 許 庁 長 官
Commissioner,
Patent Office

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日本国特許庁

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る事項と同一であることを証明する。

This is to certify that the annexed is a true copy of the following application as filed
in this Office.

出願年月日

Date of Application:

1996年 9月 9日

願番号

Application Number:

平成 8年特許願第237857号

願 人
Applicant(s):

大日本印刷株式会社

1997年 5月 2日

特許庁長官
Commissioner,
Patent Office

荒井寿光

